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Multi-Service Access Platform OPCOM3500E-12

Overview

OPCOM3500E MSAP is carrier-class Multi-Service Access Platform, and designed to enable establishment of service-integrated for Last Mile. The carrier-class compact design, the powerful interfacing capabilities and the rich mounting options open up a whole new area of application for OPCOM3500E. It can deliver a mix of voice and high-speed data service. OPCOM3500E can extend user LAN services in the Last Mile by working opposite dedicated customer located equipment such as Raisecom' s SDH CPE, PDH Multiplexer, Fiber Modem, Interface Converter, Inverse Multiplexer, Ethernet Demarcation, Ethernet Switch and Media Converter, and all the remote device could be aggregated to SDH directly.

OPCOM3500E MSAP has 2 version, the 1st version is OPCOM3500E-12 it is a rack with room for 12 modules with an aggregate capacity of up to 622Mbps, and tributary capacities down to 2Mbps. The flexibility provided by offering mapping of data traffic into a number of VC12. Next-generation SDH technology, GFP, VCG and LCAS is used for Ethernet service over SDH. OPCOM3500E-12 is an ideal product for carriers to groom and consolidate traffic from various source in a Metro network.

OPCOM3500E-12 has 6Unit high for more capacity. The second version is OPCOM3500E-6 is a smaller size of MSAP, only 3 Unit high 19 inch width chassis will save more space installation, total 4 STM-1 uplinks and 3 or 4 slots for tributary modules.

OPCOM3500E-12

Introduction

OPCOM3500E adopts rack design, including chassis, fans board, plug board and power supply board.

For the plug board, including following parts:

Network management board: NMS board should be in slot 0

Aggregation ports: STM-1, STM-4 boards should be in slot 6,7

Tributary ports: STM-1, E1, E1-fiber, PDH fiber, Multi-service PDH fiber (wire-speed Ethernet and several E1), Ethernet fiber optical and electrical (EoS/EoP), G.SHDSL boards should be in slot 1,2,3,4,5,8,9,10,11,12

OPCOM3500E-12 Feature

- One platform of aggregation and cross-connection based on TDM technology, including SDH, PDH, Ethernet over SDH, Ethernet over PDH, G.SHDSL, as well as Ethernet Layer 2, 15 slots totally
- Slot-0: SNMP NMS module, which could manage all module
- Slot-POWER1, Slot-POWER2: Redundant power supply modules
- Slot-6,7: SDH aggregation unit, totally 4*STM-1 or 4*STM-4 uplink
- Slot-9: Gigabit Ethernet aggregation unit, totally 2 GE Combo interfaces
- Slot-1,2,3,4,5,8,9,10,11,12: Totally 10 slots for tributary units, maximum 160 E1 electrical ports / 80 E1 optical ports / 40 PDH fiber optical ports / 80 Ethernet ports
- Redundant 110/220V/AC or -48V/DC power supply, Redundant aggregation modules protection, redundant PDH interface protection
- No-block cross connection of 16×16 VC4 or 1008×1008 VC12 when STM-1 aggregation module inside
- VC12 cross connection between all tributary units and aggregation units
- All service is physically isolated, providing leased line features
- Ethernet over SDH supports GFP, LAPS encapsulation, and VCG/LCAS. The bandwidth can be controlled and assigned as per the customer's need. And it makes no damage to adjust
- Ethernet over PDH supports inverse multiplexing technology, and LCAS to auto-adjust the capacity of available E1 transmission
- Optional E1 impedance 75 ohm unbalanced or 120 ohm balanced
- Optional PDH fiber optical tributary for connecting with multi-E1 plus Fast-Ethernet fiber optical multiplexer CPE
- Optional multimode, single mode or single strand fiber optic cables
- Available with 850, 1310, and 1550nm optical wavelengths
- Auto Laser Shutdown protection and Dying Gasp (remote power off)
- All interface on front panel except DC power input
- Optional overhead bytes DCC channel for SNMP remote management
- Optional appointed VC12 channel for SNMP remote management in case of DCC channel has been blocked by other brand SDH ADM
- Standard SNMP network management, realizing centralized standard SNMP network management through in-band or out-of-band network management channels
- Build-in management VC12 channel in aggregation links
- OAM of remote CPE monitoring and configuration
- Raisecom universal power supply module SUB-PWRII-AC and SUB-PWRII-DC are serving on OPCOM3500E-12, OPCOM3500E-6, RC006-12, RC006-6, RC3000-15, RC3000-6, and ISCOM5800 series chassis and platform.

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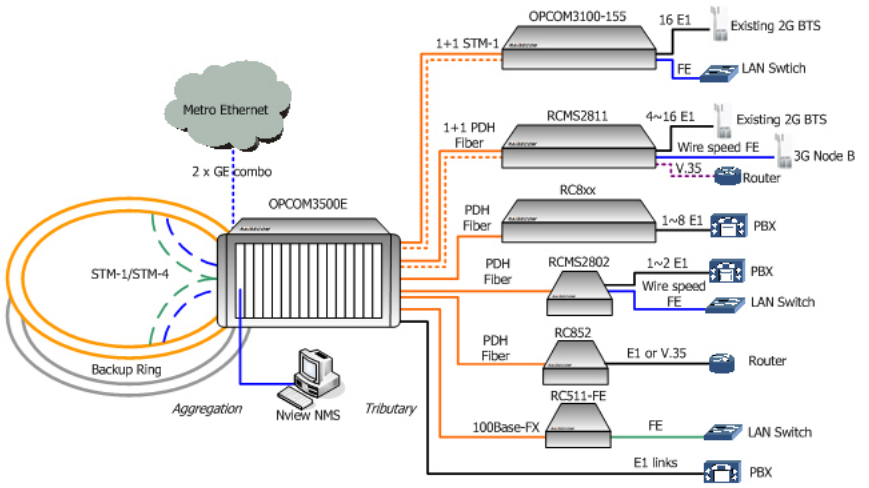
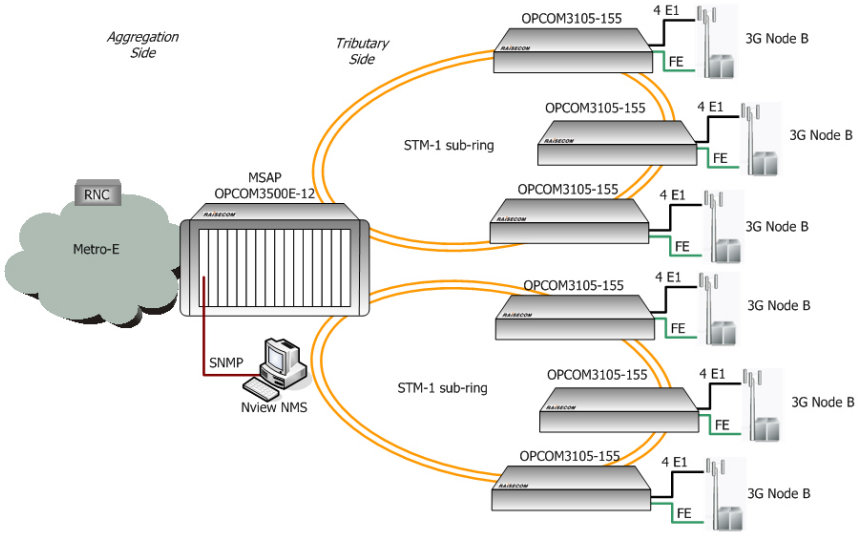
Application of OPCOM3500E-12



Aggregating most kinds of Raisecom CPE to STM-1 or STM-4 directly and Fast Ethernet to STM-1/STM-4 or Gigabit Ethernet uplinks



OPCOM3500E MSAP and mini-SDH add/drop multiplexer can do the 3G Node B backhaul through multiple STM-1 sub-rings to Metro-E. Sometimes E1 lines and Fast-Ethernet should be transparent transmitted to backbone simultaneously for voice and data services.

Specification of OPCOM3500E-12

Dimension:
480×267×248 (W×H×D) 19 inch, 6U high

Power supply condition:
DC: -36~-72V,
AC: 90~265V,
Power Consumption < 300W

Temperature: -5~50 degrees

Relative humidity: ≤90%(35 degree)

Slot number: totally 15 slots on front panel

Connecter on rear panel:
2 connecters of 3-pin -48VDC input
1 connecter of 2 dry connect alarm output
1 connecter of 3-pin -48VDC output for outside fan

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OPCOM3500E-NMS NMS module in OPCOM3500E-12

Feature of OPCOM3500E-NMS

NMS Unit

- OPCOM3500E-NMS is network management module of OPCOM3500E-12 platform in slot 0 only
- It communicates with network management software of upper layer and accepts management of upper layer.
- It can manage OPCOM3500E-12 equipment, and corresponding remote equipment.
- Provide external clock input and output for whole OPCOM3500E-12 system.
- Keep running service without NMS card available
- Support on-line upgrade of system and tributary board.
- In support of automatic read and save the configurations, running informations and from all other modules while a new NMS module inserted without any initail setup

Specification

Console Interface:	SNMP and NM-EXT Interface:
connector type: RJ45	Connector type: RJ45
Standard: complies with RS232 standard	Standard: 10/100Base-Tx
Bit rate: 9600bps	10/100Mbps Auto-negotiation
2Mbit/s Synchronous Clock Interface:	RS232 Interface for User:
Bit rate: 2048Kb/s±50ppm	Connector type: RJ45
Code: HDB3	Standard: complies with RS232 standard
Impedance of interface:75Ω (unbalanced)	Bit rate: 9600bps
Electrical characteristics: complies with ITU-T G.703	
Power Consumption: <10W	
Working Ambience: -5~70 centigrade	
Weight: 0.45Kg	

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OPCOM3500E-6 Mini Multi-service Access Platform

OPCOM3500E-6 has a simular function as OPCOM3500E-12, but only half size. The 19inch 3unit high design of OPCOM3500E-6 has totally 8 slots for all modules, and also includes redundant power supply, redundant aggregation unit, as well as the Gigabit Ethernet aggregation uplink.
OPCOM3500E-6 can share service cards with OPCOM3500E-12 except NMS and GE aggregation unit.

OPCOM3500E-6

OPCOM3500E-6 Feature

- One platform of aggregation and cross-connection based on TDM technology, including SDH, PDH, Ethernet over SDH, Ethernet over PDH, G.SHDSL, as well as Ethernet Layer 2, 6 slots totally
- Slot-1: SNMP NMS module(including 2 STM-1 aggregation optical interfaces), which could manage all module
- Slot-2: Aggregation module or tributary module
- Slot-3,4,5: Tributary modules only
- Slot-6: Gigabit Ethernet aggregation module
- Slot-PWR1,PWR2: Redundant 110/220VAC or -48VDC power supply
- No-block cross connection of 8x8 VC4 or 504×504 VC12 when NMS-STM1 module inside
- VC12 cross connection between all tributary units and aggregation units
- All service is physically isolated, providing leased line features
- Ethernet over SDH supports GFP, LAPS encapsulation, and VCG/LCAS. The bandwidth can be controlled and assigned as per the customer's need. And it makes no damage to adjust
- Ethernet over PDH supports inverse multiplexing technology, and LCAS to auto-adjust the capacity of available E1 transmission
- Optional E1 impedance 75 ohm unbalanced or 120 ohm balanced
- Optional PDH fiber optical tributary for connecting with multi-E1 plus Fast-Ethernet fiber optical multiplexer CPE
- Optional multimode, single mode or single strand fiber optic cables
- Available with 850, 1310, and 1550nm optical wavelengths
- Auto Laser Shutdown protection and Dying Gasp (remote power off)
- All interface on front panel except DC power input
- Optional overhead bytes DCC channel for SNMP remote management
- Optional appointed VC12 channel for SNMP remote management in case of DCC channel has been blocked by other brand SDH ADM
- Standard SNMP network management, realizing centralized standard SNMP network management through in-band or out-of-band network management channels
- Build-in management VC12 channel in aggregation links
- OAM of remote CPE monitoring and configuration
- Raisecom universal power supply module SUB-PWRII-AC and SUB-PWRII-DC are serving on OPCOM3500E-12, OPCOM3500E-6, RC006-12, RC006-6, RC3000-15, RC3000-6, and ISCOM5800 series chassis and platform.

Introduction

OPCOM3500E-6 adopts rack design, including chassis, plug board and power supply board.

For the plug board, including following parts:
Network management board: NMS-STM1 board should be in slot 1
Aggregation ports: STM-1, boards should be in slot 2.
Tributary ports: STM-1, E1, E1-fiber, PDH fiber, Multi-service PDH fiber (wire-speed Ethernet and several E1), Ethernet fiber optical and electrical (EoS/EoP), G.SHDSL boards should be in slot 2,3,4,5.
GE aggregation unit: MS3-ESW-2GE should be in slot 6.

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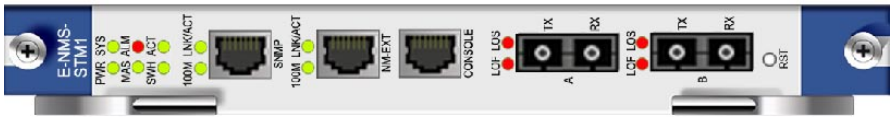
OPCOM3500E-NMS-STM1 NMS module in OPCOM3500E-6

Feature of OPCOM3500E-NMS-STM1

NMS Unit



- OPCOM3500E-NMS-STM1 is network management and aggregating function module of OPCOM3500E-6 platform in slot 1 only
- It communicates with network management software of upper layer and accepts management of upper layer.
- It can manage OPCOM3500E-6 equipment, and corresponding remote equipment.
- Support on-line upgrade of both local and remote software.
- Provides 2 STM-1 optical interfaces.
- Card level protection for SDH service when work together with aggregation card at slot 2.
- Inbuilt 8x8 VC4 or 504x504 VC12 cross connection module, supporting VC12 cross connection between all tributary cards and aggregation cards.
- Inbuilt clock module provides system clock for OPCOM3500E, clock feature conform to ITU-T G.813 criterion.
- Provides cross card protection function for remote tributary card with dual-optical interfaces protection, like P240EOS, STM1-S, 120EOSx4 card.
- In support of ALS (Auto-Laser Shutdown) function.
- Selectable E1 link BERT function.
- External and internal loopback function of SDH optical interface.

Specification

Console Interface:	SNMP and NM-EXT Interface:
connector type: RJ45	Connector type: RJ45
Standard: complies with RS232 standard	Standard: 10/100Base-Tx
Bit rate: 9600bps	10/100Mbps Auto-negotiation
STM-1 Optical Interface:	RS232 Interface for User:
Bit rate: 155.520Mb/s	Connector type: RJ45
Line code: NRZ	Standard: complies with RS232 standard
Multiplexing structure: complies with ITU-T G.707	Bit rate: 9600bps
Clock characteristics: complies with ITU-T G.813	Power Consumption: <10W
Electrical characteristics: complies with ITU-T G.957	Working Ambience: -5~70 centigrade
Jitter tolerance: complies with ITU-T G.823, G.825	Weight: 0.43Kg
Optical interface type: SC connector	

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